

US-PAT-NO: 6128776

DOCUMENT-IDENTIFIER: US 6128776 A

TITLE: Method for managing software in code division multiple access (CDMA) base station system of personal communication system

----- KWIC -----

Brief Summary Text - BSTX (5):

A conventional CDMA base station system of a PCS is illustrated in FIG. 1. A base station manager (BSM) operates base station controllers (BSCs) and base station transceiver systems (BTSs), and carries out the maintenance thereof. Further, the BSM allows an operator to input a command, input/output processing information, and load data and software to the BSCs and BTSs. A gateway communication interconnection network (GCIN) connects the BSM to respective blocks. A BSM can be connected to twelve BSCs. The BSCs match radio and wire channels between the BTSs and a mobile switching center (MSC), process calls, and manage the BTSs. A BSC can be connected to forty-eight BTSs.

Brief Summary Text - BSTX (9):

The above base station system is operated by a load sharing control system wherein the processors load data and execution software (hereinafter, referred to as "software") and implement their unique functions. It is to be appreciated that the processors are arranged in a hierarchical structure. For example, the CCP receives software from the BSM and stores the software in a specific memory. The received software is necessary for the ACP, CSPs, SIPs, SVP (Selector Vocoder Processor), BCP, CIPs, TIPs and BTP, which are lower processors of the CCP. Accordingly, upon receipt of a loading request from the ACP, the CCP downloads the corresponding previously received software to the ACP. Similarly, if there is a loading request from the CSP, the CCP downloads the corresponding previously loaded software to the CSP. Further, if the SIP requests the CCP to load software, the CCP downloads the previously loaded software of the SIP and its lower processor, the SVP, to the SIP.



US006128776A

United States Patent [19]
Kang

[11] **Patent Number:** **6,128,776**
 [45] **Date of Patent:** **Oct. 3, 2000**

[54] **METHOD FOR MANAGING SOFTWARE IN CODE DIVISION MULTIPLE ACCESS (CDMA) BASE STATION SYSTEM OF PERSONAL COMMUNICATION SYSTEM**

[75] **Inventor:** Sung-Min Kang, Seoul, Rep. of Korea

[73] **Assignee:** Samsung Electronics Co., Ltd., Rep. of Korea

[21] **Appl. No.:** 09/057,688

[22] **Filed:** Apr. 9, 1998

[30] **Foreign Application Priority Data**

May 7, 1997 [KR] Rep. of Korea 97-17559

[51] **Int. Cl.⁷** G06F 9/445

[52] **U.S. Cl.** 717/11; 717/5; 717/6; 717/7; 717/8; 717/9; 717/10

[58] **Field of Search** 395/708, 709, 395/710, 712; 717/7, 6, 5

[56] **References Cited**

U.S. PATENT DOCUMENTS

5,724,610	3/1998	Han et al.	710/22
5,757,846	5/1998	Vasudevan	375/200
5,799,010	8/1998	Lomp et al.	370/335
5,835,911	11/1998	Nakagawa et al.	707/203
5,845,148	12/1998	Ichikawa et al.	395/828
5,909,437	6/1999	Rhodes et al.	370/349
5,991,332	11/1999	Lomp et al.	375/206

OTHER PUBLICATIONS

Zhang et al., "Forward Link Capacity for Integrated Voice/Data Traffic in CDMA Wireless Local Loops", IEEE, pp. 1578-1582, 1998.

Primary Examiner—Tariq R. Hafiz

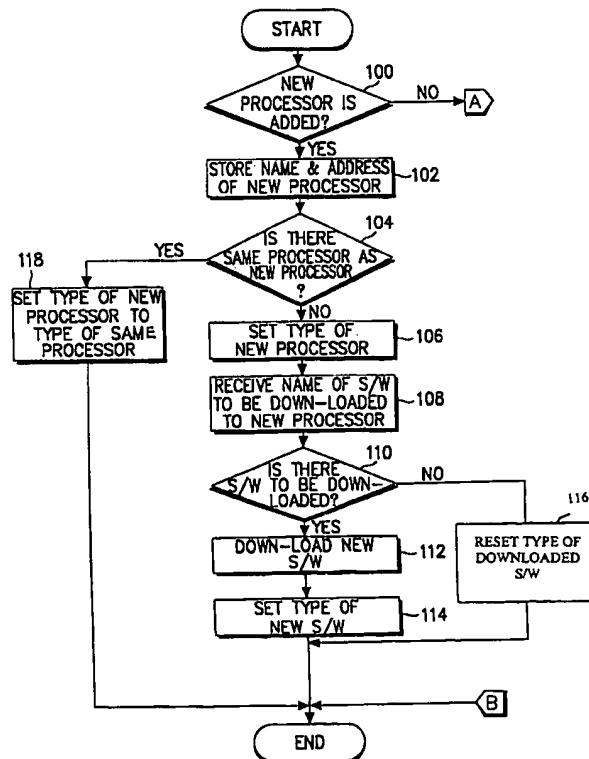
Assistant Examiner—Ted T. Vo

Attorney, Agent, or Firm—Dilworth & Barrese

[57] **ABSTRACT**

A method for managing software in a code division multiple access (CDMA) base station system of a personal communication system (PCS) includes the step of setting a processor type to each processor in the base station system, where each processor type is a string of bits including a plurality of bits equal to 0 and one bit equal to 1. Similar processor types have an identical string of bits and dissimilar processor types differ in that bit positions equal to 1 do not overlap. A software type is set to each software in the base station system, where each software type is a string of bits including a plurality of bits equal to 0 and at least one bit equal to 1. Each software corresponds to at least one processor by having a bit equal to 1 located in the same position as the bit equal to 1 in the processor type string. Software is downloaded to a download requesting processor when the result of an AND operation between the bit position of the processor type equal to 1 and the corresponding bit position of the software type equals 1.

15 Claims, 10 Drawing Sheets



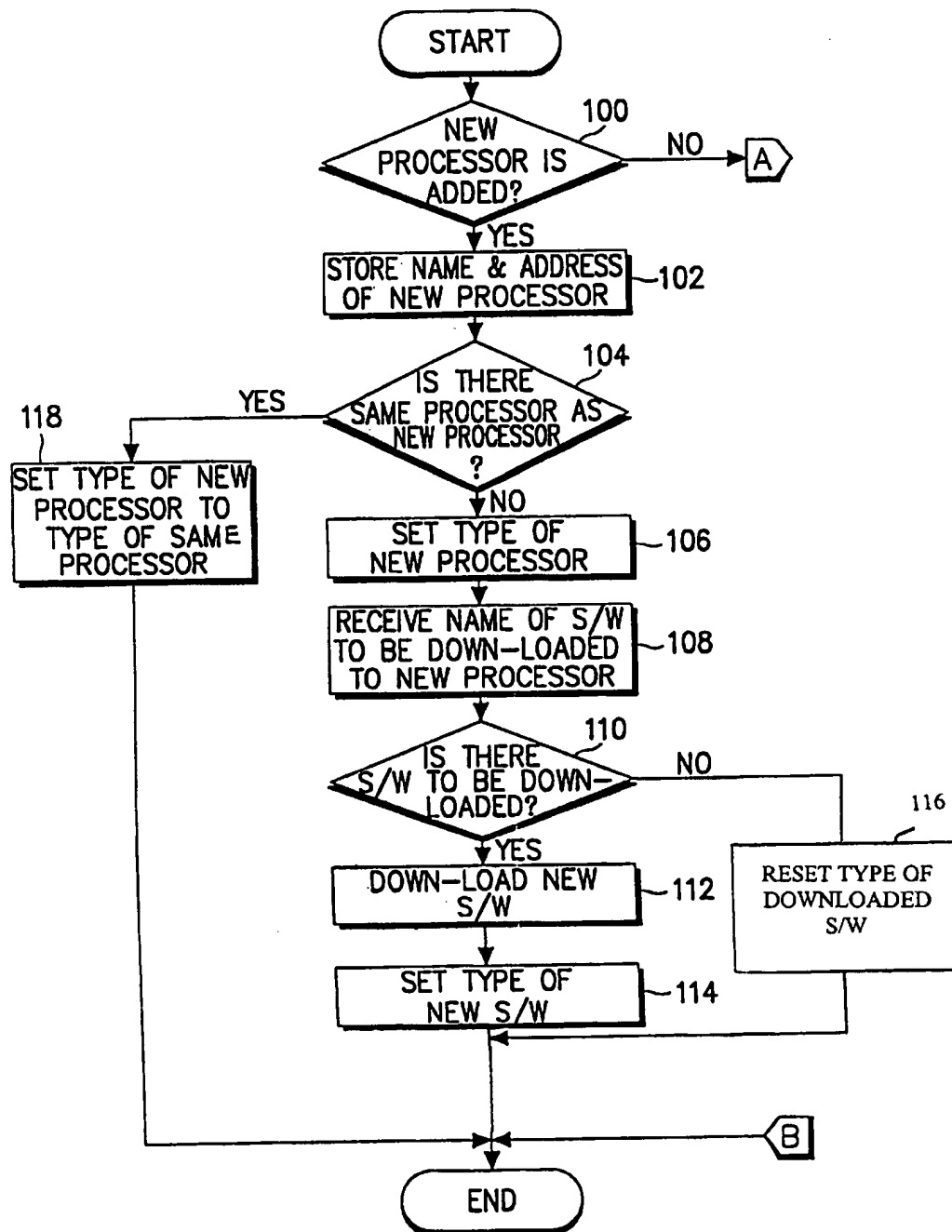


FIG. 4A